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Polarization: Measurement, Analysis, and Remote Sensing IX

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Dennis H. Goldstein**
Editors

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Introduction

The latest work in polarization research is contained within this volume, with an emphasis on remote sensing for defense and security applications. There were more talks than ever that described results of measurements taken with mature, well calibrated sensors. Several talks discussed new and refined polarization devices with better performance and improved size and angle response. The one biological polarization talk generated a great deal of interest and produced a number of questions for the speaker. The conclusion that an attendee to the conference would come to is that the field continues to mature through advances in instrumentation, modeling, and processing.

These proceedings are made up of 22 papers from six conference sessions. The first session consisted of three papers on algorithms followed by a session on instruments. The second day started with a session on devices and components. A special topic session on measuring polarization sensing in invertebrates presented the only biological polarization paper. This was followed by a session on remote sensing and a session on signatures. All of the papers in the last two sessions primarily described measurements with less emphasis on the instruments themselves, highlighting that polarization sensing is becoming more routine and that applications are becoming more numerous.

This conference marks the 12th year in a row that a polarization conference has been held due in part to the high interest in the technology, the maturity of the sensors, and the corresponding ability to collect, analyze, and exploit high quality data. Over the last six years, the polarization conferences have alternated from the SPIE Annual Meeting in odd years to the SPIE Defense + Security symposium in even years. The 11 prior conferences of 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2002, 2001, 2000, and 1999 are documented in Proceedings of SPIE Vol. 7461, 6972, 6682, 6240, 5888, 5432, 5158, 4819, 4481, 4133, and 3754, respectively. Previous conferences in this series include *Polarization: Measurement, Analysis, and Remote Sensing* held in San Diego in 1997 (Proceedings of SPIE Vol. 3121) and *Polarization and Remote Sensing* held in San Diego in 1992 (Proceedings of SPIE Vol. 1747). Conferences on polarization, without the specific emphasis and inclusion of the remote sensing application and entitled *Polarization Analysis and Measurement I and II* (Proceedings of SPIE Vols. 1746 and 2265), were held in San Diego in 1992 and 1994. Earlier conferences include *Polarimetry: Radar, Infrared, Visible, Ultraviolet, and X-Ray* (Proceedings of SPIE Vol. 1317, 1990), and *Polarization Considerations in Optical Systems I and II* (Proceedings of SPIE Vol. 891 in 1988 and Vol. 1166 in 1989).

Our appreciation is given to our program committee members and session chairs for their efforts in making this conference a success, and to the contributing authors for the high quality of the papers in this volume.

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